RESEARCH

9(23), January 1, 2014

ISSN 2278–5469 EISSN 2278–5450

Discovery

# Some Underutilised Plant Resources as a source of food from Ahmednagar District, Maharashtra, India

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**Publication History**
Received: 19 November 2013
Accepted: 25 December 2013
Published: 1 January 2014

**Citation**
Mulay JR, Sharma PP. Some Underutilised Plant Resources as a source of food from Ahmednagar District, Maharashtra, India. *Discovery*, 2014, 9(23), 58-64



**ABSTRACT**

Traditional knowledge has assumed great importance in enhancing our knowledge about the plants which are used by the people since time immemorial. During last few decades, sufficient research work on ethnobotany has been done in various parts of India by several workers. However, Ahemednagar district have not been given enough attention as far as ethnobotanical studies are concerned. Hence, to fill up the gap present investigation has been undertaken. The study revealed in all 85 weed species belonging to 65 genera and 37 families During the study 85 plant species used for edible purposes have been documented. Majority of the species used are from families, Amaranthaceae (08 species), Fabaceae (07), Asteraceae (06), Malvaceae and Caesalpiniaceae (05 species each), Solanaceae and Lamiaceae (04 each), Convolvulaceae, Cleomaceae, Menispermaceae and Cucurbitaceae (03 each), Apiaceae, Commelinaceae, Verbenaceae, Arecaceae, Cappraceae, Chenopodiaceae and Poaceae (02 each), while remaining families have single species used as food.

**Keywords:** Weeds Edible, Ahemednagar, Maharashtra.

## 1. INTRODUCTION

According to Anderson (1954), "history of weeds is the history of man". The plants, which we call today as a weed, are persistent since time immemorial but during the ancient periods the prevailing forest conditions were not suitable for the growth of weedy species, and yet these plants were apparently present in certain places and were thus able to colonize as soon as artificially disturbed sites became available to them.

There is ample evidence that many weed species were also used for food by early man, though this practice is by no means confined to the past. Many of our present day weeds thus have a long history in India, but a great many others were introduced from other parts of the world much later by successive groups of colonizers. The example of the weeds came from outside are *Parthenium hysterophorus*, *Cassia* sps., *Echornia* sps., etc.

Since man began to create disturbed environments on a large scale it is clear that enormous new possibilities have been opened up for weeds, and it is a striking fact that many weeds which are a serious problem in areas to which they have spread are relatively harmless in the places from which they were introduced. It is worth re-emphasizing that some weedy plants were certainly selected by primitive man as crops. Amongst crops thought to be have been selected and evolved from weedy ancestors are potatoes, carrots, sunflowers, barley, oats and rye; the weedy grass *Aegilops* is known to be an ancestor of modern wheat varieties. Thus weeds can be important to man in many ways, not all of them disadvantageous. The present communication will give a information about the weed plants and some of their utilities for mankind from Ahemadnagar district.

The Ahemadnagar district is located between 18°02'N lat., 19°09' E North latitude and 73°05' and., 75° 05'East longitude and is situated partly in the upper Godavari river basin and partly in the Bhima river basin It is largest district of Maharashtra occupying more or less the central position in the state and with an area of 17,413 sq. km. As regards the botanical explorations in Ahmednagar, several people have made notable contributions, such as Billore and Hemadri (1972), Santapau (1951), Santapau and Irani (1962), Wadhwa (1970) most of these works resulted in enrichment of the Herbaria except few publications, like Shirke (1983). Hooker et al. (1872-1897), Cooke (1909-1917) have recorded plants from Ahmednagar district in their publications. However, extensive work for the flora of the Ahmednagar district has been done by Pradhan and Singh (1999). In spite such a extensive floristic works present investigations indicates that the plant wealth of Ahmednagar has not been given enough emphasis and needs more attention.

**Table 1**

Five dominant families for food

| Family Name | No.of genera | No. of Species |
|---|---|---|
| Amranthaceae | 06 | 08 |
| Fabaceae | 07 | 07 |
| Asteraceae | 04 | 06 |
| Caesalpiniaceae | 02 | 05 |
| Malvaceae | 03 | 04 |

**Table 2**

Showing Habit-wise break-up of total plant species used in food

| Plant group | Plants used in food |
|---|---|
| Trees | 04 |
| Shrubs | 07 |
| Herbs | 54 |
| Climbers | 17 |
| Total | 85 |

**Table 3**

Details of plants consumed by humans

| Uses | Vegetable | Fruit | Grain/ Cereal/ Pulse | Other | Total |
|---|---|---|---|---|---|
| No. of Species | 47 | 20 | 07 | 09 | 85 |

## 2. MATERIALS AND METHODS

The present ethno botanical survey was done during 2010-2012 in different villages of Ahemadnagar. Old experienced men and women were consulted to know about the use of various plants growing in their localities. Herbariums of the useful weeds were prepared and identification was done following standard literature Cooke, (1967) Singh et al., (2000 & 2001), Cooke, (1958), Pradhan and Singh, (1999). Herbarium specimens are deposited in the Botany Department Deogiri College, Aurangabad. Following is the alphabetical list of plants with their scientific names, synonyms if any and local name, name of family and plant parts used as edible.

**Table 4**

All the information thus gathered on plant species used in human consumption is given at a glance along with their family names, plant parts used, in the following table.

| Sr .No | Botanical Name | Family | Local Name | Parts used | Preparation |
|---|---|---|---|---|---|
| 1 | *Abelmoschus esculentus* (L.) Moench Meth. | Malvaceae | *Bhendi* | Fr | Curry |
| 2 | *Abelmoschus manihot* (L.) Medik. ssp. *tetraphyllus* Bor | Malvaceae | *Ran bhendi* | Fr | Vegetable |
| 3 | *Abutilon pannosum* (Forst.) Schlecht | Malvaceae | *Kasali,Karandi* | Sd | Chutney |
| 4 | *Abrus precatorius* L. | Fabaceae | *Gunj* | Lf | |
| 5 | *Acacia nilotica* (L.) Willd. ex Del. ssp. *indica* (Bth.) Brenan | Mimosaceae | *Babhul* | Gum | Ladoo |
| 6 | *Achyranthes aspera L.* | Amranthaceae. | *Aghada* | Lf | Curry |
| 7 | *Aerva lanata (L.) Hook.* | Amaranthaceae | *Kapurmadhura* | Lf | Curry |
| 8 | *Alternanthera sessilis (L.) DC* | Amaranthaceae | *Chimut kata* | Lf | Curry |
| 9 | *Amaranthus spinosus L.* | Amaranthaceae | *Katemath* | Lf | Curry |
| 10 | *Amarnthus tricolor* L. | Amaranthaceae | *Tandulja* | Lf | Vegetable |
| 11 | *Amaranthus viridis L* | Amaranthaceae | *Math* | Lf | Vegetable |
| 12 | *Apluda mutica L.* | Poaceae | *Ghagara, Tambat* | Lf | Tea |
| 13 | *Argemone mexicana L.* | Papaveraceae | *Bilayat* | St | Vegetable |
| 14 | Argyreia nervosa ( Burm. f ) Boj. | Convolvulaceae | *Samudrashok* | Lf | Boiled role wadi |
| 15 | *Atriplex hortensis L* | Chenopodiaceae | *Chandan batwa.* | Lf | Vegetable |
| 16 | *Bacopa monnieri (L.) Penn* | Scrophulariaceae | *Nir-Brahami* | Lf | healthdrink |
| 17 | *Basella alba* L. | Basellaceae | *Mayalu* | Lf | Boiled role wadi |
| 18 | *Begonia crenata* Drynad | Begoniaceae | *Amabadi ,Mutia* | Lf | Juice |
| 19 | *Brassica nigra (L.) Koch* | Brassicaceae | *KaliRai, Mohari Sarsoo* | Sd | spices condiments |
| 20 | *Boerhavia repens L. var. diffusa* | Nyctaginaceae | *Punrnava* | Lf . | Curry |
| 21 | *Canavalia gladiata* (Jacq.) DC. | Fabaceae | *Abai, Ghevada* | Fr, Sd | Vegetable. |
| 22 | *Capparis decidua (Forssk.) Edg.* | Cappraceae | *Nepti* | Fr. | Vegetable. |
| 23 | *Capparis zeylanica L.* | Cappraceae | *Waghati* | Fr | Vegetable. |

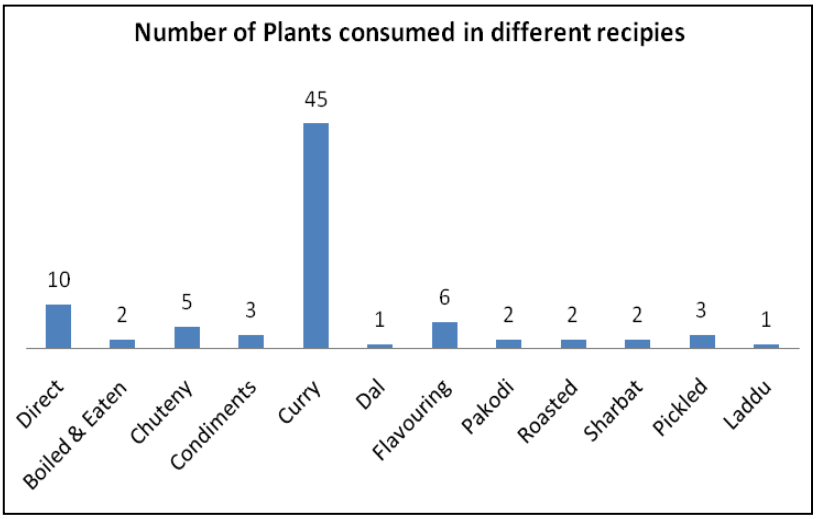
| Sr .No | Botanical Name | Family | Local Name | Parts used | Preparation |
|---|---|---|---|---|---|
| 24 | *Caralluma adscendens var. fimbriata (Wall.)* | Asclepiadaceae | *Sindad makad Shingoli.* | St | Vegetable. |
| 25 | *Cassia flstula* L. | Caesalpiniaceae | *Bahava* | Fl | Curry |
| 26 | *Cassia occidentalis* L. | Caesalpiniaceae | *Ran takala* | Lf . | Chutney |
| 27 | *Cassia sophera* L. | Caesalpiniaceae | *Jangali takala* | Lf | Chutney |
| 28 | *Cassia tora* L. | Caesalpiniaceae | *Tarota* | Sd | Coffee |
| 29 | *Celosia argentea L.* | Amaranthaceae | *KurduKombda* | Lf | Vegetable |
| 30 | *Centella asiatica (L.)* Urb. | Apiaceae | *Brahami, Mandukaparni* | Wp | Health drink |
| 31 | *Chenopodium album L.* | Chenopodiaceae | *Chakvat* | Lf | Vegetable |
| 32 | *Cleome aspera* Koen. | Cleomaceae | | Lf | Vegetable |
| 33 | *Cleome gynandra L.* | Cleomaceae | Pandhri tilvan | Lf | Vegetable |
| 34 | *Cleome viscosa* L. | Cleomaceae | *Pivali tilvan* | Lf | Vegetable |
| 35 | *Cocculus hirsutus (L.) Diels* | Menispermaceae | *Vasanvel* | Lf | Curry |
| 36 | *Coccinia grandis (L.) Voigt.* | Cucurbitaceae | *Tondli* | Fr | Vegetable |
| 37 | *Commelina benghalensis* L. | Commelinaceae | *Kena gavat* | Lf | Vegetable, Pakodi. |
| 38 | *Commelina diffusa* Burm. f. | Commelinaceae | *Gandologi* | Lf | Vegetable, Pakodi. |
| 39 | *Cucumella ritchiei* (Chakr.) Jeffrey | Cucurbitaceae | | Frt | |
| 40 | *Digera muricata* (L.) Mart.. | Amaranthaceae | *Kunjru* | Lf | Vegetable |
| 41 | *Emilia sonchifolia* (L.) DC | Asteraceae | *Sadmandi* | Lf | Vegetable |
| 42 | *Eclipta prostrata* (L.) L. | Asteraceae | *Maka* | Lf | Curry |
| 43 | *Habenaria foliosa* A. | Orchidaceae | | Tu | Vegetable, |
| 44 | *Hibiscus sabdariffa L.* | Malvaceae | *Lal ambadi* | calyx | Pickled |
| 45 | *Hibiscus sabdariffa L.* | Malvaceae | *Lal ambadi* | Lf | Vegetable |
| 46 | *Hygrophila schulli (Buch.,Ham.) M. R. & S. M.* | Acanthaceae | *Talimkhana* | Lf | Curry |

| Sr .No | Botanical Name | Family | Local Name | Parts used | Preparation |
|---|---|---|---|---|---|
| 47 | *Impatiens inconspicua* Bth | Balasminaceae | *Gulabi terda* | Sd & Lf | Vegetable |
| 48 | *Ipomoea aquatica Forssk* | Convolvulaceae | *Nalachi bhaji, Bhuikohala.* | Lf | Curry |
| 49 | *Ipomoea mauritiana Jacq* | Convolvulaceae | *Bhui khola* | Tu | Vegetable. |

| | | | | | |
|---|---|---|---|---|---|
| 50 | *Lantana salvifolia* Jacq | Verbenaceae | *Tantani* | Fr | |
| 51 | *Launaea intybacea (Jacq.) Beauv* | Asteraceae | *Undarichakan* | Lf | Vegetable |
| 52 | *Launaea procumbens (Roxb).* Roxb. | Asteraceae | *Pathari* | Lf | Vegetable |
| 53 | *Launaea sarmentosa* (Willd.) Sehultz-Bip. | Asteraceae | *Pathari* | Lf | Vegetable |
| 54 | *Leucas aspera (Willd) Spr.* | Lamiaceae | *Dudhani* | Lf | Curry |
| 55 | *Macrotyloma uniflorum (Lamk.) Verde* | Fabaceae | *Ranhulga* | Sd | Curry |
| 56 | *Melilotus indica* (L.) | Fabaceae | *Ranmethi* | Lf & sh | Vegetable |
| 57 | *Mucuna pruriens* (L.) DC. | Fabaceae | *Khajkuari* | Fr | Vegetable |
| 58 | *Mukia maderaspatana* (L.) Roem. | Cucurbitaceae | | Fr | |
| 59 | *Ocimum americanum* L. | Lamiaceae | *Rantulesi* | Lf | Chutney |
| 60 | *Ocimum tenuiflorum L.* | Lamiaceae | *Kalitulashi* | Lf Infl | Tea |
| 61 | *Opuntia elatior* L. | Cactaceae | *Nivdung* | Fr | |
| 62 | *Parkinsonia aculeata* L | Caesalpiniaceae | *Vedi Babhul* | Fr | |
| 63 | *Passiflora foetida* L. | Passifloraceae | *Rasana* | Fr | Sarbat |
| 64 | *Phaseolus vulgaris* L. | Fabaceae | *Shravan Ghevada* | Fr | Vegetable |
| 65 | *Phoenix sylvestris (L) Roxb.* | Arecaceae | *Shindi* | Wd sap | |
| 66 | *Phoenix sylvestris (L) Roxb.* | Arecaceae | *Shindi* | Fr | |
| 67 | *Phyla nodiflora* (L) Greene | Verbenaceae | *Adalim* | Lf | Chutney |
| 68 | *Physalis minima* L. | Solanaceae | *Popati* | Fr | |
| 69 | *Pimpinella heyneana* (DC.) Kurz | Apiaceae | *Dongar-jeera* | Wp | Pickled. |
| 70 | *Piper trichostachyon*(Miq.) DC. | Piperaceae | *Lendi pimpali* | Fr | spice in Curry |
| 71 | *Plectranthus barbatus Andr* | Lamiaceae | *Mainmula* | Rh | Tea. |

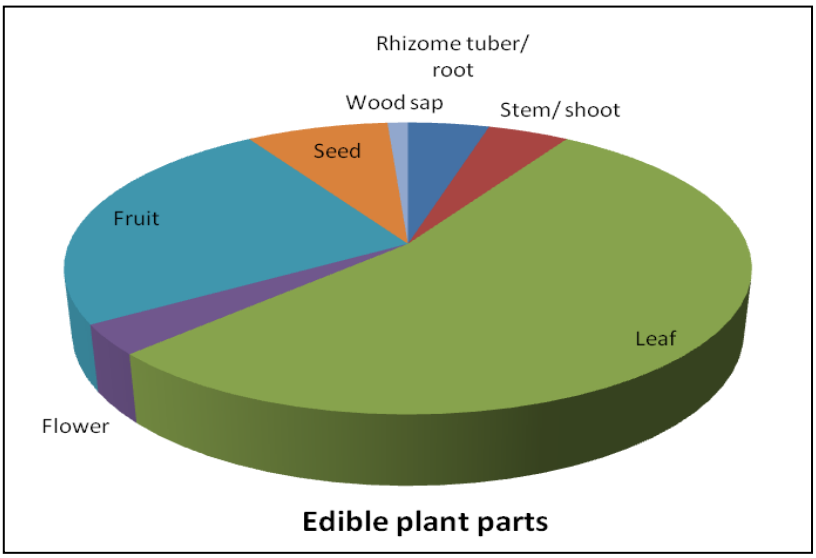
| Sr .No | Botanical Name | Family | Local Name | Parts used | Preparation |
|---|---|---|---|---|---|
| 72 | *Plumbago zeylanica L.* | Plumbaginaceae | *Chitrak* | Lf | Vegetable |
| 73 | *Polygonum plebejum* R.Br. | Polygonaceae | | Lf | Curry |
| 74 | *Portulaca oleracea* L. | Portulacaceae | *Gholachi bhaji* | Lf | Vegetable |
| 75 | Solanum anguivi Lam. | Solanaceae | *Mothiringani* | Lf | Vegetable |
| 76 | *Solanum nigrum* L. | Solanaceae | *Kanguni* | Fr | |
| 77 | *Solanum virginianum L.* | Solanaceae | *Bhui ringini* | Fr | Curry |

| | | | | | |
|---|---|---|---|---|---|
| 78 | *Spilanthus calva* DC. | Asteraceae | *Akkalkara* | Lf | Tea. |
| 79 | *Tinospora cordifolia (Willd.) Miers* | Menispermaceae | *Gulvel* | Fr | Pickled. |
| 80 | *Tinospora cordifolia (Willd.) Miers*. | Menispermaceae | *Gulvel* | Fr | Vegetables |
| 81 | *Trachyspermum roxburghianum* (DC.) Craib | Apiacae | *Ran ova* | Fr | spice |
| 82 | *Tribulus terrestris* L | Zygophyllaceae | *Sarata* | Lf | Curry |
| 83 | *Vetiveria zizanioides* (L.) Nash | Poaceae | *Wala* | Rh | Sarbat |
| 84 | *Vigna radiata* (L.) | Fabaceae | *Sonamug* | Sd | Curry |
| 85 | *Ziziphus mauritiana Lam.* | Rhamnaceae | *Bor* | Fr | |




**Graph 1**

Show number of species used in different recipes




**Graph 2**

The analysis on plant parts used for human consumption

## 3. RESULTS AND DISCUSSIONS

Although Wheat, Jowar and Rice constitute main food of the local people in the region, the wild edible plants occurring in the nearby areas are also taken as supplementary food. The study revealed in all 85 weed species belonging to 65 genera and 37amilies. The five dominant families in respect of maximum number of species used for food are Amaranthaceae which is followed by Fabaceae, Asteraceae, Caesalpiniaceae and Malvaceae.

Habit-wise break-up of total plant species used in food Trees, (04) Shrubs (7) Herbs (54), Climbers (17); (Table 1). This indicates, in food the maximum species used are herbs, which are followed by shrubs. Out of the total 85 species used for human consumption, 11 are cultivated and 76 are wild. The species used as vegetables are 47, fruits are consumed of 20 plant species, 07 species are used as grain/ cereal/ pulse and for 09 species other plant parts are consumed (Table 2). The analysis on plant parts used for human consumption shows that maximum use of plant parts by local people are leaf (46 species) followed by fruit (of 20 species ) and Seeds (07 species), underground parts (04 species), and flowers of 03 species, tender stems 04 and wood sap of 01 species. Out of the total 85 weeds, fruits of 10 species are directly eaten and 45 species are used for preparing curry, chutney of 05 species and 03 species are used as condiments. 6 species for flavorings food recipes are and so on (Table 3). The analysis on plant parts used for human consumption shows that maximum use of plant parts by local people are leaf (46 species) followed by fruit (of 20 species ) and Seeds (07 species), underground parts (04 species), and flowers of 03 species, tender stems 04 and wood sap of 01 species (Graph 1, Graph 2 & Table 4).

**ACKNOWLEDGEMENTS**

Mrs. J. R. Mulay is thankful to University Grants Commission, New Delhi for granting facilities and F. I. P. Authors are thankful to Principals of the Colleges for support and facilities.

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